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ABSTRACT

This report addresses the issue of developmental education. Among the data presented is the number of high school graduates who were placed in developmental courses in English, reading, and mathematics. Included are abstracts of information submitted upon request by the following community colleges: Cochise, Cococino, Eastern Arizona, Maricopa, Mohave, Northland Pioneer, Pima, Central Arizona, Yavapai, and Arizona Western. The following observations regarding developmental education and implications for future action are offered: (1) placement rates varied according to the above listed districts--English/writing 25-80%, reading 24-66%, and mathematics 24-92%; (2) the general observation made by Maricopa that recent high school graduates did poorer than older students in English and reading and better than older students in mathematics seems to be true statewide; (3) additional studies are needed on the effect of developmental courses on student retention and subsequent success in collegiate studies; (4) it may be useful to consider correlating the high school performance criteria with community college course placement criteria; and (5) the report on academic performance of high school graduates required by A.R.S. 15-1822 needs to include more statewide summary data so that patterns can be identified and tracked over time. (AS)

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Developmental and Remedial Education in Arizona Community Colleges: A Status Report

Don Puyear

Arizona State Board of Directors for Community Colleges

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Developmental and Remedial Education in Arizona Community Colleges

A Status Report
By Don Puyear
August 7, 1998

Based on current issues being discussed in the community college literature and discussions with other community college state directors and others at the national level, I concluded that there are currently four critical issues that are being discussed in state legislatures across the country. These are (1) transfer articulation, (2) distance education, (3) remedial education, and (4) concurrent enrollment of high school students in community college courses. Arizona community colleges are addressing the first two topics forthrightly. We have been somewhat less systematic in addressing the last two at the statewide level.

In order to ascertain our current status regarding both remedial education and concurrent enrollment of high school students in community college courses, I requested that the Arizona community colleges provide information on these topics and the results of any research or reports that they may have prepared in recent years.

Information regarding remedial and developmental education that the colleges might already have on hand was requested. This included available data on the number of students requiring remediation, the relative number of these that were recent high school graduates, the number of students who completed remediation in a reasonably short time, and the success of remedial students in subsequent college work. It is important to emphasize that the request specifically asked for results of evaluations that had already been done. It was not a request for additional research or analysis at this time.

Background

A.R.S. §15-1822. Report; Academic Performance of High School Graduates, requires the State Board and the Arizona Board of Regents to annually submit a report to the President of the Senate, the Speaker of the House of Representatives, the Superintendent of Public Instruction, and the State Board of Education on the academic performance of preceding year's graduates from high schools. The report shall include for each high school at least the following:

1. The number of graduates of the school who were enrolled in the institution during the reporting period.
2. Information about the academic performance of graduates of the school in mathematics and English courses.

The statute also provides that the Superintendent of Public Instruction shall provide each high school with a copy of the portion of the report that is applicable to its graduates.

While these reports have been compiled for the past several years, no summary, statewide composite, or analysis has been included for community colleges. Changes in the reporting format for district data from hard copy to electronic database this year is expected to make it feasible to develop these summaries and to greatly increase the usability of this report.

This report indirectly addresses the issue of developmental education. Among the summaries that will likely be made is the number of the high school graduates who were placed in developmental courses in English, reading, and mathematics.

COMMUNITY COLLEGE INFORMATION

The following is an abstract of the information submitted by the community colleges in response to the request.

Cochise County Community College District (Cochise College)

- Cochise College reports a new initiative in the 1997-98 academic year called "Steps Toward Educational Progress and Success" (STEPS) designed to assist students in English and reading. With new faculty being recruited to work in developmental reading, the college anticipates a positive impact on students. Additional data will be collected during the 1998-99 academic year to validate this progress.
- Enrollments during the 1997-98 academic year are reported to be:

Remedial English	285
Remedial Reading	113
Remedial Mathematics	1,070

Coconino County Community College District (Coconino Community College)

- Coconino Community College reports the following information regarding students in developmental education courses.
  - In the fall semester 1997, there were 107 students enrolled in developmental English, 327 enrolled in developmental reading, and 295 enrolled in developmental mathematics.
  - During the past seven years (the total history of the college) enrollments have been:

	Total Enrollment	Average Age of those >25	Number > 25
Mathematics	773	36	261
Reading	1288	35	373
English	402	37	139

- At least 31% of students placed in remedial education were over 25 years old and therefore were not enrolling directly from high school.
- Students placed in remedial education had a grade point average (GPA) of 2.43, as compared to 2.78 for all students.

Graham County Community College District (Eastern Arizona College)

- Eastern Arizona College reports that they conducted a study of remedial education in 1993. The results of that study included the following:
  - Students needing remediation:
    - Reading: 39% of the entering student body was reading at levels below 12th grade.
    - English: 34% needed developmental English.
    - Mathematics: 69% needed developmental mathematics.
  - Of these, how many were recent high school graduates?
    - 60 % of developmental students were under the age of 25.
  - How many students complete the remediation within a reasonably short time?
    - 50% of developmental students complete their developmental coursework by the end of the fourth semester.

Maricopa County Community College District (Maricopa Community Colleges)

- Maricopa Community Colleges provided extensive data on developmental studies, which is summarized as follows:
  - Number of developmental students:
    - English: Of students who graduated from high school the previous year, approximately
      - 75% test into Freshman English (do not require developmental courses),
      - 20% are recommended for one developmental course, and
      - 5% are recommended for more than one developmental course.
    - Reading. Of students who graduated from high school the previous year, approximately
      - 33% test out of the reading requirement,
      - 33% test into CRE 101, which is not considered to be developmental, and
      - 33% test into a developmental course.
    - Mathematics. This is more difficult to measure, since students have to take multiple tests.
      - Only about 8% of previous year high school graduates test into college algebra or calculus.
  - Older students: No specific figures are available for this group. As a generalization, however,

- Older students do better than recent high school graduates in English and reading skills, and
- Older students do worse than recent high school graduates in mathematics skills.
- Older students have had more practice with language and have likely forgotten the details of algebra and trigonometry.

♦ Data on completion rates were provided.

- In general, between 57% and 64% of new high school graduates take ENG 101 as their first English course the first year they are in college, while 14% to 16% take a developmental course. However 16% to 21% take no English course their first year. (Roughly 1/3 of new high school graduates begin a fall term part-time.)
- In mathematics, between 35% to 37% take a developmental course as their first math course. Roughly 28% to 34% take classes numbered 100 or higher, while 31% to 35% take no mathematics their freshman year.

Mohave County Community College District (Mohave Community College)

♦ Mohave Community College requires the following categories of students to take the skills assessment in the areas of writing, reading, and mathematics prior to meeting with an advisor and registering:

- Students planning to register for core curriculum classes for the first time who have not previously taken skills assessment at Mohave Community College;
- Students receiving financial aid; and
- Students whose educational objectives are a degree, a basic technical or advanced certificate, or transfer to another educational institution.

♦ In the fall 1996 semester, 29% of all enrolled students took the placement tests; and in the spring 1997 semester, 11% of all enrolled students took the tests.

♦ In the fall 1996 semester, placement rates, enrollment and success rates were as follows:

Reading	Number	%	Enrolled	Placements	Succeeded	Enrollments
AED 080 Basic Skills Read	27	9.1%	3	11.1%	1	33.3%
ENG 085 College Reading	270	90.9%	81	30.0%	51	63.0%
Total	297		84		52	
Writing						
ENG 088 Elem of Writing	232	43.7%	76	32.8%	52	68.4%
ENG 089 Appr to Writing	299	56.3%	129	43.1%	72	55.8%
Total	531		205		124	
Mathematics						
MAT 020 Math Essentials	607	71.7%	196	32.3%	110	56.1%
MAT 021 Prealgebra	199	23.5%	116	58.3%	85	73.3%
MAT 031 Intro to Algebra	41	4.8%	38	92.7%	29	76.3%
Total	847		350		224	

Note that many students who took the placement test did not subsequently enroll in the college.

Navajo County Community College District (Northland Pioneer College)

- Northland Pioneer College reports the following information regarding the number of students requiring remediation:

	Number tested	Number scoring below 35/34 pts	Number of recent high school graduates	Number of older students
English	2,363	552 (23.4%)	120	432
Reading	2,363	530 (22.4%)	126	406
Mathematics	2,363	729 (30.8%)	174	555

- The results of remediation programs is illustrated by the following data:
  - English
    - 29% of those passing BSK 090 enrolled in ENL 101 the following semester.
    - The pass rate for pre-college writing (BSK 090) was 35%.
    - The pass rate in ENL 101 for students who completed BSK 090 and enrolled in ENL 101 the following semester was 100%.
  - Mathematics
    - 59% of those passing BSK 069 enrolled in MAT the following semester.
    - The pass rate for pre-college algebra (BSK 069) was 37%.
    - The pass rate in MAT 105 or 119 for students who completed BSK 069 and enrolled in one of these courses the following semester was 54%.

Pima County Community College District (Pima Community College)

- Pima Community College reports that among the cohort of students who were new-to-higher education in Fall 1988 the number who took placement examinations in each area, and the percentage who completed the course work in the first semester are as follows:

	Took Exam	% Requiring Remediation	% Completed course work in 1 semester
Writing	2,809	86%	75%
Reading	2,908	65%	71%
Mathematics	1,975	91%	66%

- The number of students who took the placement test in each area during academic years 1992-93 through 1997-98 and the percentage requiring remediation in each area are as follows:

	92-93	93-94	94-95	95-96	96-97
Writing					
Took exam	9,184	8,689	9,466	9,147	9,473
Req. remed.	81%	76%	73%	77%	80%
Reading					
Took exam	10,864	9,970	11,091	10,467	10,258
Req. remed.	62%	65%	65%	62%	61%
Mathematics					
Took exam	9,303	8,895	9,778	9,280	9,559
Req. remed.	76%	74%	74%	75%	77%

Pinal County Community College District (Central Arizona College)

- Central Arizona College reports that well over half of the students who take the ASSET (degree and certificate students) need remediation. Specific data for fall semester 1996 are shown below:

Skills	Score	Number at or below score	%
Writing	= 39	822	57%
Reading	= 41	880	66%
Numerical	= 40	634	71%

Yavapai County Community College District (Yavapai College)

Yavapai College reports the following enrollments in remedial classes:

ENROLLMENTS	Those who graduated from high school within last 5 years	Those who graduated from high school more than 5 years ago	Total
English	297 (73%)	112 (27%)	409 (100%)
Math	547 (67%)	268 (33%)	815 (100%)

Students who withdrew from remedial classes:

WITHDRAWALS	Those who graduated from high school within last 5 years	Those who graduated from high school more than 5 years ago	Total
English	71 (66%)	36 (34%)	107 (100%)
Math	204 (63%)	119 (37%)	323 (100%)

Yuma/La Paz Counties Community College District (Arizona Western College)

- Arizona Western College supplied extensive data on placement of students into remedial classes. The results for the fall 1997 semester include the following:
  - English: 34.4% of students taking placement tests were assigned to "Basic Writing" and 18.9% to "Introduction to Composition" leaving 46.7% for "Freshman Composition." There was little difference between recent high school graduates and older students.
  - Reading: 34.6% of students taking placement tests were required to take reading and another 12.2% were recommended to take reading; 53.2% were at college level. The percentage of students at college level was lower (47.4%) for recent high school graduates than for older students (59.2%)
  - Mathematics: 36.5% of students taking placement tests were placed in remedial "Essentials of Mathematics", 31.7% in "Beginning Algebra," and 22.4% in "Intermediate Algebra." Only 9.4% were placed in "College Algebra" or above. A considerably higher percentage of recent high school graduates (14.9%) were placed in "College Algebra" or above than were older students (4.8%).

OBSERVATIONS AND RECOMMENDATIONS

The following observations regarding this information and implications for future action are offered:

- A relatively high proportion of students taking the placement tests (new students in degree and certificate programs in most cases) was placed in developmental courses. Likewise, the placement rates varied greatly among the districts. For the districts supplying this information, the placement rates varied as follows:
  - English/Writing 25% – 80%
  - Reading 24% – 66%
  - Mathematics 24% – 92%
- The general observation made by Maricopa that recent high school graduates did poorer than older students in English and reading and better than older students in mathematics seems to be true statewide.

- Additional studies are needed on the effect of developmental courses on student retention and subsequent success in collegiate studies.
- With the advent of performance criteria for high school graduation, it may be useful to consider correlating the high school performance criteria with community college course placement criteria.
- The report on academic performance of high school graduates required by A.R.S. §15–1822 addresses only a small part of the questions related to developmental and remedial education in that only recent high school graduates are included, and only the student's initial courses are reported.
- The report on academic performance of high school graduates required by A.R.S. §15–1822 needs to include more statewide summary data so that patterns can be identified and tracked over time.